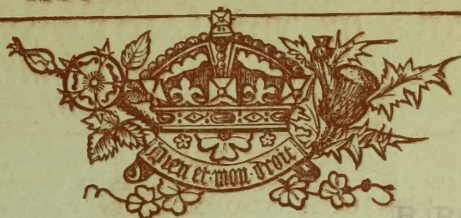


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FOR THE

CAPTURE, ECONOMIC TRANSMISSION AND
DISTRIBUTION OF SEA FISHES

AND HOW

These matters affect Irish Fisheries

BY

R. F. WALSH (of Kinsale)

LONDON

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LONDON, 1883

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H. RATHBUN.

ON

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CONFERENCE ON 30TH JULY, 1883.

EARL of MILLTOWN in the Chair.

ON IMPROVED FACILITIES FOR THE
CAPTURE, ECONOMIC TRANSMIS-
SION AND DISTRIBUTION OF SEA
FISHES; AND HOW THESE MAT-
TERS AFFECT IRISH FISHERIES.

IMPROVED facilities for the capture, economic transmis-
sion, and distribution of sea fishes, are, perhaps, the most
important matters connected with sea fisheries, towards
which the attention of the Government and of all persons
interested in the food supply of the United Kingdom
should be studiously directed.

It would be impossible, in the treatment of these subjects,
to even touch on all of the great Fisheries of the British Isles.
I therefore purpose to confine myself to the fisheries of
the South and West of Ireland, and for reasons which I
shall afterwards make more plain.

Before I proceed to the exposition of my ideas of the
matters I have undertaken to write, I shall give a brief
history of the fisheries I have elected to treat of. And,
drawing conclusion from the facts that will be contained in
it, I shall show that the harbours and fisheries of the South
of Ireland have been neglected by the Government; that

the fisheries there are amongst the largest and most productive in the United Kingdom, and that the insufficiency of funds, and consequently of enterprise, and the absence of proper accommodation, are alone to blame—that those fisheries do not successfully compete with the largest fisheries of the world.

In this brief history it will be seen that the extracts contained in it point to a curious but important conclusion, and that is, that the haunts of mackerel and herring (so far as the South of Ireland is concerned) do not change, as is accepted by most authorities.

And I am glad to state that the facts recorded in these extracts conclusively prove the importance of the South of Ireland for these fisheries, and a certainty of the best results from fishing operations there.

As far back as 1665 A.D., the fisheries of mackerel, herring, and pilchards were prosecuted at Kinsale with great success. The boats and gear used by the Irish fishermen at that time are not made particular mention of, although there are records of enormous catches of fish by them. But it is evident that, in point of size and completeness, the nets and boats of the fishermen of other countries, and notably of France, were much in advance of those used by the Irish, and I am scarcely wrong when I state here that the gear and general appliances of the French mackerel fishers of that period, excepting steam, were not inferior to those now used by our most scientific English, Manx, or Irishmen,—and that unless in some unimportant matters the improvements on the appliances of that time, by our islanders, have aimed rather to imitate, more or less, the plant of the French fishermen, than to make any stride towards innovation or more completeness of system. In making this statement you will of course understand

that I do not allude to boats, for we all know well that vast improvements have been made, from time to time, on the models of that period.

In proof of the existence of great fisheries at Kinsale, in the 17th to 18th century, I give the following extracts from the 'Annals of Kinsale,' and I think they will be interesting—"14 June, 1672."—Sir Robert Southwell addressed a letter to Mr. Reeve, of Rotterdam, in which the following passage occurs concerning the Kinsale fishing: "His father . . . in 1665, took £1300 worth of fish in one pull of a net." "Kinsale, 10 June, 1739," extract from letter of D. Furzer, to Mr. Secty. Burchett: "French fishing vessels . . . now come close to shoar to the number of 200 or 300 sail, from 60 to 80 tons, having each about 400 nets from 8 to 10 fathoms long. They come about the beginning of March (if the weather be good) and stay till towards the end of May."

From these extracts it will be seen that the French fleet of mackerel boats engaged in fishing off the Kinsale coast at that time numbered about 300, and that the nets of each boat were 400 in number, each measuring 8 to 10 fathoms, or, in other words, that the nets of each boat measured about 3 miles in length. So that, apart from the appliances of the native fishing boats, 900 miles of netting were employed by foreigners in the prosecution of the fishery early in the 18th century.

Further on in the letter I have quoted concerning the French boats, it appears that the natives were under the impression that the enormous size of the nets of the Frenchmen "interrupted the course of the mackerel and tended to break their shoals." Be that as it may, the mackerel have not left the coast, and their ground to-day is the same that it was two centuries ago.

Herring fishing, too, was carried on extensively in those days, and amongst the many records concerning this fishery, I find one of which the subject even now commands great attention, and justly so; it concerns the desirability of enforcing restrictive laws for herring fishing. I shall not entertain this subject in my paper, as it is a matter of dubious benefit, but as it may be interesting to know what were the ideas on the subject of the fishermen of former days, I give the extract:—

4th Oct., 1731.—“And whereas the Herring fishery is also greatly destroyed by persons fishing in spawning time, we present that no person fish for or take any Herrings or Sprats within the limits of this corporation before 29 September or after 1 January.”

Thus it will be seen that two or three centuries ago mackerel and herring were captured with great success and with superior appliances on the Southern Irish coast.

Following the observations I made at the commencement of my paper, I shall proceed to show that on the same ground where those great fisheries existed centuries ago, the same fisheries are still carried on with success; that at all times since then the haunts of those fishes have been the same; how, for a time, the fisheries existed (to the same extent) no longer, and the manner in which they were revived and have since their revival been worked.

Shortly after 1739, the last date at which we have mention made of the presence of foreigners at the Kinsale mackerel fishery, the restrictions enforced by the Government for the protection of the native fishermen became so noxious that French and other fishermen elected to remain away. The result of this did not benefit the natives; they needed emulation, and at the same time several religious and political feuds occurring in the town, the fisheries were neglected,

Irish fishermen and others were debarred from the privileges of the English settlers, and those great fisheries remained practically dormant until some twenty-five years ago.

Then a few Manx boats were sent over to Kinsale to "try" the ground, and the success of the experiment will be seen as I detail the entire working of the mackerel fishery on that coast, of the herring fishery there, and all the *minutiæ* of the particular points I have elected to write on, under the title of my paper.

The reasons why I have selected the fisheries of the South of Ireland will be manifest when I state that I have been for many years a director of the South of Ireland (now Kinsale) Fishing Company, Limited. And apart from this, I shall show by statistics that the fisheries of this coast are of such extent and importance, that a diagnosis of their operations and a few practical observations on improvements which can be made in the methods in use for the capture and transmission of fish, and on harbour accommodation there, will be of as great utility, for the purposes of this paper, as a general history of the fisheries of the United Kingdom.

In the year 1880—not counting Frenchmen—the number of boats engaged in the Kinsale Fishery was 722; in 1881, 652; and in 1882, 693. In size these boats averaged 27 tons each, and every boat carried *at least* 44 pieces of netting of 100 yards long, or 4400 yards of net—making in all somewhat over 1200 miles of netting for the fleet; or, in other words, the largest amount of netting in use in the world, so far as we can ascertain, at any one fishery, unless we regard the herring fisheries of Peterhead, Wick and Fraserburgh, &c., as one fishery—extending as they do, over an enormous extent of seaboard.

Of these boats one-half are Manx, one-third Irish, and the remainder English and Scotch.

This fishery begins about the first week in March, and continues until about the first of July—14 weeks. The number of fishermen employed in it is over 5000, and the entire number of men engaged in connection with the fishery is about 8000.

I have inquired as diligently as possible as to the quantity of mackerel caught in each season for five years, and have approximated the number to be about 31,500,000; these were sold by the fishermen at an average price of 15s. per hundred (of six score). These figures prove for themselves that the average amount of money paid for mackerel at Kinsale, per fourteen weeks (or season), for a period of five years, was over £250,000—a quarter of a million. And I have also authority to state that nearly one-fifth of this amount is paid for herrings at Kinsale between the months of May and August in each year.

These figures are collected, averaged, and approximated from official statistics, and therefore cannot be questioned. Taking into consideration the enormous supply of herrings that are to be found, and that are captured (when sought for) off Kinsale, it will seem unreasonable that Scotch and other fishermen do not prosecute the fishery after July.

At the time when the herring fleet leaves Kinsale, the largest “takes” are netted; but the herring fishery opens just then in places where curing houses and cheaper carrying rates occur, and naturally the merchants go to the ground where their profit is greatest.

On the south coast of Ireland there are *no* curing houses; herrings captured there have to be transhipped, in the same manner as mackerel, to some port where curing houses exist. It is questionable whether herring thus

cured is so valuable as when *fresh* cured. Therefore, the Kinsale herring fishery is abandoned at a time when the quality of the fish admittedly surpasses that of any other fishery, and when the quantity is greatest, simply because the accommodation for curing the fish is not there. The food supply is curtailed by want of these curing-houses, the fishermen leaving the ground solely because of their absence.

In this there is room for practical Government aid. I have it on the highest authority that Kinsale herrings cured fresh are superior to most others. The *means* and enterprise for the erection of such factories are not at Kinsale. The establishment of such factories would yield a large profit to the projectors and builders—the Government could help to develop the scheme, and especially by judicious technical education. From a national point of view, it seems to me they ought to, and I can only hope that they will, give the matter their attention.

Having given an idea of the importance of the fisheries from which I propose to expose my digest of the improvements that can be made in the capture and transmission, &c., of sea fishes, I shall now attack the real theme of my paper, and I hope to point out matters that will be useful.

The nets used in mackerel and herring fishing are usually made of cotton, and various means are adopted to render the cotton lasting, the principal method being to “bark” them with an infusion of cutch.

They are also tarred, and are sometimes, for a time, used white. The latter is a Scotch method, for it is believed by some Scotch fishermen that one season’s fishing with the unbarked cotton does not materially injure or affect its lasting properties; and after the one season they either

bark or tar the nets—the former being the means usually adopted.

The action of the cutch infusion on the cotton, in the operation of barking, is somewhat similar to the tanning process in the manufacture of leather. It toughens the thread, and, penetrating the fibres of the cotton, covers it, so to speak, with a coating of cutch, and so renders it less open to the action of the salt water.

The tarring process has a somewhat similar effect on the cotton, but is not frequently adopted, and for various reasons, chiefest amongst which is the belief, or rather fact, that tar so covers up the exterior of the cotton and hemp of the netting and ropes, that faulty parts are indiscernible, and oftentimes good nets are lost by reason of those nearer on the roping giving way, or perhaps the rope itself.

Other preparations are recommended and sold for the preservation of netting, of which alum is the most useful. I believe that if the nets were for a season or two dipped in a solution of alum, instead of cutch, and afterwards barked, the cotton would be made to last longer, the expense of preserving the nets would be lessened, and a general saving obtained on the expenditure necessary to keep the nets in good order.

As I have already stated, the usual number of nets used by British mackerel fishers is 44, each net being 100 yards long.

The gear and construction and working of the nets, however, differ in many ways, and I shall here endeavour to point out which style has, over a period of twenty years, been found to be the most advantageous.

Each net is 100 yards long, and from 100 to 130 meshes, or 18 to 24 feet deep, and is usually made of 15-ply cotton thread. When in use, the 44 nets are joined

together in the manner I shall now show, and form a continuous "string" of netting 4400 yards long. A few inches above the top of the net the floats are arranged. These are composed of small corks, about 3 to 4 inches square, and about an inch thick, and are fastened to the net by two ropes which run the entire length of the "string." These ropes are fastened to the net by means of cords called ossils, 400 of which are used for each piece of net, and the union of all these ropes and corks is called the "top line," or "top back," and serves to extend the nets and keep them afloat.

At the bottom of the nets another rope runs from end to end, and this is called the "foot line," or "sole rope." Suspended from this foot line, at distances of 50 yards, or half a net, are other ropes, each 27 feet long, and called "stoppers," and finally, at the bottom of the stoppers, runs a thicker rope, "the warp," or "spring back," which is used to haul the nets.

Some use stoppers, which extend from the top line downwards to the warps, but these are not so advantageous, as they tend to huddle the net together; whereas the stoppers and warps, being suspended from the sole line or bottom of the net, serve to keep the net strained to a sufficient degree.

Warps, &c., the full length of the nets are also used, but this is a mistake. It is always advisable to leave, say half a net free at the extreme end, for this steadies the line, and consequently the whole net swings more evenly. The "top line" is not held on board the boat, but the "spring back," or "warp" is, and also a heavy rope called the "swing warp" (about 50 yards long), which is fastened to the end of the "sole rope," and this steadies the whole arrangement when the boat is "lying to."

The herring nets are differently constructed and fewer, only 25 to 30 nets, of about 100 yards each being used, but they are *much* deeper than the mackerel nets, and not secured or floated similarly. There is no foot line or sole rope. All the connections are at the top. The small buoys that float the nets are secured to them by the stoppers, which are 5 or 6 fathoms long, so that the herring nets lie many feet under water.

About two fathoms above the nets the warp or spring back is run, fastened to the stoppers, and the net itself hangs free.

New nets require a little lead to sink them, but when they are in use for some time they sink readily themselves.

Having shown the construction of the nets, I shall now describe how they are worked, and point out improvements on the existing system.

In mackerel fishing the boat must, if possible, reach the fishing ground before sunset, as it is always desirable to "shoot" the nets before that time. The "ground" having been ascertained by the presence of gannets, puffins and oily-looking water, the nets are begun to be "shot" or thrown out, the boat still sailing. This process occupies about thirty-five minutes. When the net is "shot" the sails are lowered, and the mast too, and the boat "lies to" her nets until about an hour after midnight, when they are begun to be hauled in.

It is during this operation that much time is lost at the ground, for it takes from six to nine hours, according to the weather and quantity of fish, or the nets. Of late years various applications of steam have been used for hauling instead of the old windlass; and it is certain that steam winches cause a saving both of labour and of time, to a considerable extent. The nets are hauled

in by a steam winch in about three hours ; the mast is lowered and elevated by it, and so are the sails. Besides this, the boat carries one man less, and could, without inconvenience, dispense with two—so great a labour saver is the steam apparatus.

From this it will be seen that the application of steam for fishing purposes is proven a success, and should be encouraged and more generally adopted by our fishermen.

The cost of the steam winch is only about £70—one man's *share* or wages for one year would pay for it—it would be a permanent benefit to our boats, and I hope that the delays at the fishing ground are of the past, and that steam appliances will be generally adopted, and so render more easy the delivery of the fish, and improve and economise the general working of the fishery. Having explained the various ways in which nets are “cured” and worked, I come to the important portion of my paper dealing with the transmission of sea fishes, and particularly of mackerel, which is one of the most perishable.

As the mackerel season begins towards the middle of March, the weather is still cold and the fish does not need ice to preserve it until it gets to market ; but as the season advances, a considerable amount of ice is used, and with this I shall deal afterwards.

When the fish is caught (at distances varying from three to forty miles off the land) the fishing boat makes sail for Kinsale, the headquarters of the merchants, or, if they happen to be too far west, towards Baltimore. The time occupied in reaching the harbour is long or short, according to the distance and wind.

At the mouth of Kinsale Harbour, $3\frac{1}{2}$ miles from the town, they are met by the rowing boats of the buyers. If their catches are small they are transferred to the rowing

boat, and the fishing boat returns to the fishing ground ; and if large, they proceed to the inner harbour (losing the following night's fishing) to unload their silvery freight on board hulks (there being no pier), which serve as quayage and ice stores for the merchants. Here they are packed in boxes and iced, and again transferred to steamers or steam carriers, which take them to Milford, and thence by rail to the markets of London, Birmingham, &c. This brief sketch of what occurs between the time the fish is caught and when it is delivered at the central market for consumption, forms the chiefest portion of my essay, and I will divide it in four parts—1st. The improvements that are possible in bringing the fish from the fishing ground. 2nd. Improvements in steam carriers. 3rd. The cost of ice, freights, railway rates, &c., and how to lessen them ; and, 4th. The necessity for proper fishery harbour accommodation.

It is easy to point out how improvements may be made in certain things, but the improvements are not always practicable. I hope I shall not deal in impossibilities ; and although in the matter of mackerel fishing the first suggestion I make is an innovation, I believe it nevertheless to be decidedly practicable and advantageous.

Namely, if it sometimes, as it does, takes thirty to forty hours to sail from the fishing ground to harbour, thus making the fish (what is called) "over day," or stale fish, why not employ small steam fishing boats ? The usual registered tonnage of a mackerel boat being thirty tons, the machinery necessary to propel it by steam would need an increase in the size, and raise or enlarge it to say forty-five tons, or even more. The price of a first-class, well-finished mackerel boat is about £600 ; double that amount, or a little more, ought to procure such a steam-boat as I

suggest, and the saving in time effected by the change would not only ensure the best price for the fish, but, what is better, would enable the boat, unless under some extraordinary circumstances, to fish every night. These advantages must be obvious ; for taking into consideration the time that elapses between the time when the fish is caught, brought to harbour by the fastest sailing boats, and sold by the retailer in our great central markets, it is of the utmost consequence that the only period during the transfer where, unless by accident or want of carrying accommodation, delays can occur, namely, the bringing to harbour from the fishing ground, should be shortened as much as possible, and the fish delivered to the packers in the freshest possible condition.

Besides these great advantages the steam-fishing boat might earn large amounts by towing sailing boats to the harbour mouth, or even to the fishing ground when the wind was "slack" or contrary. In many of the Scotch herring fisheries the use of steam is largely applied, and I am informed that a few Scotch herring boats are propelled by steam, the steam, of course, being used only when necessary by reason of no wind or adverse wind. But the principle I have laid down, of the profits and benefits to be derived, outside the actual use of steam to the propelling of the boat itself, is conclusively proven by what occurs in those Scotch fisheries, and in this way—

Fish merchants not only employ steam carriers, but also steam tugs, which are used to tow sailing fishing boats to the harbour mouths and fishing grounds. I think this fact proves how beneficial would be the application of steam to mackerel fishing boats in the manner I have pointed out.

The improvements that might be made in steam carriers

are, to my mind, few but important. Many plans of steam carriers have been devised and proposed—some of them are novel, and some have been tried.

Amongst the latter is the vessel with false hold or bottom, which allows the water to pass through with a view to bringing the fish alive to market. This style of carrier may be advantageous in some cases, but it is impracticable for the great mackerel and herring fisheries of the United Kingdom.

I have inquired from the best sources what improvements could be made on the existing style of carrier, and I have come to the conclusion that superior speed, extensive over-deck room, and the removal of the engines and boilers to a portion of the vessel the farthest possible from where the fish is packed and carried, are about the only improvements that can, or rather need, be made. These suggestions may take many forms, and I think the most important would be to provide carriers which, proportionate with size, could with the greatest speed carry the largest number of boxes of fish over deck, or in properly ventilated mid-deck compartments.

The rates charged for the transmission of fish by carrier owners, and particularly by railway companies, is really the subject on which a practical and necessary improvement should be made.

I shall illustrate this. At the Kinsale and South of Ireland mackerel fishery the following is the plan adopted by the fish merchants for conveying fish to London and the central markets :—

They hire steamers of say 250 tons register from Liverpool tug owners, at rates varying from £200 to £500 per week.

These steamers are not hired by individual merchants,

but by companies (companies only so far as concerns the hiring of the steamers).

A rate for fish carrying is then struck; this includes icing, for these companies are large importers of ice for fishing purposes, and having finally agreed to rates with the different railway companies on the English side, the hirers of the steamers not only carry their own fish, but that of other and smaller merchants at a fixed rate (arrived at in the manner I have shown), which this season is 105*s.* per ton to London.

This 105*s.* is made up as follows:—40*s.* per ton of ten boxes (each containing 100 fish) for icing and freight to Milford, and 65*s.* per ton railway rate from Milford to London.

Thus, when mackerel are bought at 15*s.* per hundred, they cannot be delivered in London under 30*s.*, 4*s.* 6*d.* being added for cartage, &c., to the carrying rate of 10*s.* 6*d.* per box. The average cost of ice to the merchants is 15*s.* per ton cost and freight to Kinsale from Norway; but, allowing for melting, this really means 30*s.* per ton of workable ice. One ton of ice will suffice for twenty boxes, or two tons of fish (packed), so that allowing 15*s.* per ton for ice, the sender is charged 25*s.* per ton, or 2*s.* 6*d.* per box freight from Kinsale to Milford. This is not unreasonable, but the railway rate is, and should be remedied.

The cost of freight from Cork to London on other goods which come under the name of food and drinks is much less than that charged for fish. The freight on whisky is only 35*s.* per ton. This is not a particularly perishable article, but is liable to serious evaporation and loss of strength from exposure, &c.

Why then charge three times as much for the carriage of

fish? It may be said that fish is three times, nay 100 times, more perishable; but this is not analogous.

Fish is dead weight—so is whisky; the former is the most perishable, but if the railway company cause no unnecessary delay in its transmission they run no additional risk by reason of its being perishable. This anomaly will be more clearly understood and appear more unreasonable when I state that in the case of fish carrying the railway companies have exceptional facilities for profit, without an extra rate, inasmuch as that it is shipped from Kinsale and its branches in sufficient quantities to load as many as three to four special trains, and, therefore, gives a *certain* traffic, at an exorbitant rate, against the uncertain traffic of the goods for which the same companies charge lesser rates.

I hold that it is unreasonable and unjust, and I also hold that goods which are used as food should be carried at as cheap or cheaper rates than ordinary merchandise. Let railway companies raise their rates for breakable or perishable merchandise; but food, without which we cannot live, should be carried at the lowest possible rate, and I think that this matter deserves the attention of those of the Government who are responsible for the public health.

It appears, too, from the fact of there being only two railway companies—viz.: at Milford and Holyhead—which carry to the English markets, that they hold a monopoly of traffic from the Irish mackerel fisheries, and charge what they like—and they do “like” a very large rate when they charge 65s. from Milford and Holyhead to London, and 80s. to some of the English markets from the same ports of landing. Not only does this railway monopoly affect the Irish mackerel fisheries, but also the important herring fisheries of Howth, Arklow, Ardglass, &c., on the eastern

coast. This naturally impedes the development of Irish fisheries, as it is obvious that the freights and enormous railway rates necessitate a lower price being paid for the fish than is paid in more favoured districts.

Should this be? I think not, and I ask, will the authorities allow a railway monopoly to increase the price of food, and thereby preclude many from obtaining it? Certainly they should not, and I hope the Government will take steps to remove this barrier to the development of Irish fisheries, and thus help to increase the food supply of the United Kingdom.

I now come to the concluding portion of my paper, and I shall devote it, as I have explained, to an exposition of the insufficient fishery accommodation on the Irish coast. When I began this essay, I stated that the Government had neglected the fisheries and harbour accommodation of the south of Ireland. I now state authoritatively that the fishery population and fisheries of that portion of the United Kingdom, and particularly of Kinsale and its branches, have, with some few unimportant exceptions, never been encouraged by the Government; nor have they proposed to the fishers of those districts any scheme which by Government aid would develop the wonderful and important food resources of the mackerel, herring, and other fisheries I have written of.

In illustration of how pier and harbour accommodation has been neglected by the Government, I shall give a brief outline of the history of the Kinsale fishery pier and sea-wall.

In 1878, after many years of petitioning and seeking, a Bill was passed by Parliament, granting to the Kinsale Harbour Commissioners a sum of £7500, and providing that a further sum of £6500 should be advanced on loan

by the Irish Board of Works, and also permitting the Kinsale Harbour Commissioners to expend a sum of £2000 from their funds, all for the purpose of building a fishery pier and sea-wall. During the five years since that Bill was passed, reams of letters and deputation after deputation were sent from Kinsale to the Board of Public Works to hasten on the commencement of the pier. "Red tapeism," however, had to be wound and unwound its accustomed (in this instance, I have to believe, unaccustomed) length. Obstacles of easy removal were made mountains of; a few hundreds extra swelled to thousands—so far as the difficulty of obtaining it, even a loan, from the Government, was concerned; and despite the importance of the fishery which waited for the pier, and the fact of its admitted necessity, it has been commenced to be built only since this paper was written.

From what I have said of the non-encouragement of Irish fisheries by the Government, it may appear to some persons that the story of this pier and the Government grant is a contradiction of such a statement. But I speak of *encouragement*, and, in my opinion, it is not encouragement, either on the part of a Government or an individual, when it takes many years to *extract* help from them for such a purpose.

Travelling through Scotland and the North of England, I was struck with the accommodation afforded by the Government to the fisheries there, in the shape of State-aided harbours, piers, &c.

Why the same advantages should not be extended to Ireland, I know not. However, I shall point out *where* the Government *could* improve the fishery accommodation on the southern Irish coast, and then I have done.

When dealing with the transmission of fish, I pointed

out the distance from the land at which fish are caught, and showed the delay that occurs at Kinsale by reason of insufficient accommodation of one kind or other. Now I believe that on no more fitting place could the Government expend some thousands in development of fisheries, and for aiding the quick transmission of fish to market, than here.

At the north of Kinsale Harbour there are two points—Hangman and Money Points—one on the eastern and the other on the western side of the entrance. The railway at Kinsale terminates at the eastern side of the inner harbour ; and it would be a saving of hours, perhaps one night's fishing, to the boats if a fishery pier were built at this eastern point, and connected either by rail or tramway with the railway and the already proposed inner or town fishery pier.

At Baltimore, Youghal, and Crookhaven, piers or harbours might also be made by Government aid, with peculiar advantage to the fisheries on the coast, and safety to the lives of the fishermen.

Two hundred and fifty thousand pounds worth of fish shipped from this coast in three months feed a great many mouths in England. The quantity of food obtainable might, by judicious help from the Government, be more than doubled. I have pointed out how the fisheries might be aided ; I have recommended steam fishing-boats, improved carriers, moderate railway rates, and improved and sufficient harbour and pier accommodation. All these might the Government help to accomplishment. It is, in a great measure, in their hands to increase the food supply of the United Kingdom by these means. I ask, almost incredulously, will they do it ?

Since this portion of my paper was written, I am glad to

state that the Government have made one good effort towards the ends to which I have alluded, namely, by their promotion of the Irish Fisheries and Harbour Bill, 1883. Irishmen of every class and creed and shade of political opinion are grateful for it, although the £250,000 appropriated to the improvement of Irish fishery harbours, &c., by this bill, was already the property of the people of Ireland. And I do hope that, in the disposition of the grants and loans, under this Act, very great care will be taken that piers and harbours will only be built where there is the greatest necessity for them; and that the importance of the fishery, and the necessities of the locality, will in each case be studied before deciding on any works of importance. But there still remains even a more important want, namely, encouragement for our fishermen—encouragement by means of help for curing-houses, State-aided ownerships for fishermen, and above all, State-aided technical education in those branches of craft and trade connected with net-making, boat-building, and the curing and preserving of fish.

Here, then, is the solution of the wished-for success of our fisheries. Encourage our young men and young women in those arts and crafts which tend towards the development of one of the most important, perhaps the most important, branches of commerce.

And I ask you, my lord, and those amongst you, gentlemen, who are listening to me, and by whose influence these ends can be approached, to help us in the good work, and to ask for us that State aid which is a necessity for our success. We in Ireland, who get so little, are not easily disappointed; but I hope the Government will give us a pleasant surprise by helping us in our fisheries and in the technical education of our fishermen

and fishwives. By doing this they will be supporting a national, as well as an Irish, industry ; they will ensure a greater supply of food for their subjects, and they will help to support, not only the families of Irish fishermen, but the thousands who do, and the many thousands who could, derive a living from the proper development of Irish fisheries.

DISCUSSION.

Mr. HORNSBY said from the extreme point on the east coast at Ardglass there was a long expanse of coast-line which was not fished from May until the close of the year. Mr. Walsh accounted for it by stating that the Kinsale fisheries were first promoted by a tentative effort to ascertain whether they would be worth pursuing after they had lapsed for some years. Now the west coast was in exactly the same condition. Those who fished at Kinsale were chiefly from Scotland and the Isle of Man, and they returned from there, following the direction of the fish salesmen, to other parts of the coast-line, chiefly to the east coast to prosecute their fisheries there, under the direction and stimulus of the fish-curers, and under the patronage of the fish salesmen. For example, the Scotch east coast fishermen, who fished on the Norway coast during the winter, came to the Kinsale and Howth fisheries for the month of April or May, and then in July they went to Peterhead, Aberdeen, and other places, as directed by the fish-curers. They were retained for this purpose, a subsidy being given them, and they remained there until they had secured a certain amount of fish ; if they did so within the time contracted for they were free to fish on their own account. Afterwards they went to the southern ports, such

as Lowestoft and Harwich. The fishermen on the west coast of Scotland, Campbeltown, and Loch Fyne, were accustomed to fish in the same way, but of late years those fisheries had been failing; some of the men at Campbeltown owned thirty or forty boats, and they were prepared to try the west coast of Ireland, but who was to induce them to do so? The fish salesmen would not attend them there until they had proved the fisheries would be successful. Therefore there seemed to be a missing link, and the question was, who was to promote the general movement of fishing boats attending the west coast of Ireland? The whole coast was peopled with hardy fishermen, who, as Mr. Brady had said, were remarkable for their honesty and hardihood; he wished he could say as much for their persistent industry; but these men were very teachable, and if you had Scotch boats along the west coast of Ireland for the present month up to the end of September or the middle of October they would no doubt be glad to take one or two native fishermen as pilots, who would in that way pick up a little technical education, and would be instructed in the art of following fish to a considerable distance from the coast. Last week he was talking with some men of this class off Clew Bray near Achil Point, the furthest on the west coast of Ireland. He found there the appliances they had for fishing were the native coracles. If these men could be taken on board the Scotch fishing vessels and taught, in the course of time, with a little assistance from the State, they would invest their money in hookers and larger boats. The question was, who was to instruct these men? At present they only fished with these coracles; they went out to a bank perhaps five miles off the coast, and that was the last of their enterprise. The reason these boats were generally used was that they

would ride in about a foot of water, they passed readily through the surf, and could be easily taken up and carried on their backs when they got on shore. He thought Mr. Walsh's idea, if it could be carried out, of having a steam carrier for going from port to port to collect the fish, would be very good, otherwise it was often thrown on shore to rot. There might be tons and tons of herrings thrown on the shore because there were no means of sending them to market. Again, another missing link with regard to these Irish fisheries was this, if Scotch or Cornish boats were to come to the south or west coast of Ireland there might be harbours of refuge as near as possible to the fishing grounds, provided by and under the control of the Government, and, on the other hand, there must be light tramways to connect the more distant parts with the established railway termini. The charts in the British section would explain why it was from the month of May or June to the end of the year the west coast fishery was practically not prosecuted; the fish were there and were not caught, first, because the men were not there, and, secondly, because the fishing grounds were so distant from any harbours.

Mr. BLAKE, M.P., proposed a vote of thanks to the two gentlemen who had read Papers. As an Irishman he was very much interested in the fisheries, and felt much obliged to both gentlemen for the most interesting and valuable Papers they had read. No man in Ireland was more entitled to speak on industrial subjects than Mr. Bloomfield, because no one had made greater efforts in that direction than he had. It was more than a quarter of a century since he had been associated with him in an effort for the extension of railway accommodation in Ireland, and for the State to purchase the railways; it was a great misfortune for Ireland that this was not done, and also

for the State, because they would have paid very well. He was very glad indeed for the sake of the fisheries to find that Mr. Bloomfield had taken up this question, and every one who had heard the Paper would agree with him that he had dealt with it in a very exhaustive manner. He was sorry to be obliged to say, that there were very few men occupying a high social position in Ireland who took any practical interest in this question, and, therefore, Mr. Bloomfield's Paper was all the more welcome. The Paper read by Mr. Walsh was also of a most important character. He was practically engaged in the fishery enterprise in the south of Ireland, and had shown how it could be made to pay. The interest in this subject was not confined to Ireland, it was of national importance when one considered the vast amount of fish consumed in the United States. He had taken great trouble to prepare a statement, which he would put before the House of Commons, showing the aggregate amount of fish consumed in the United States, and it amounted to the enormous quantity of twelve millions a year; that was chiefly sea fish, and was entirely independent of importations from Norway, Newfoundland, or elsewhere, in the preserved condition. Out of that total the amount captured by Englishmen was eight millions sterling, Scotland three millions, and not more than half a million for Ireland, and of that a considerable portion was taken by Manx, Scotchmen, and Cornishmen; and even the French fishermen came in considerable numbers to the Kinsale coast. It seemed very strange that Ireland should contribute so little to the national larder, when it was asserted so often that there was no diminution of the quantity on the coast, and, from his experience, he believed such to be the fact. In old times the English

monarchs had derived large revenues from allowing foreign nations to fish on the Irish coasts. In the time of Charles £8000 was given by the Spanish monarch to allow a certain number of Spanish vessels to fish there, and in about 1640 the Swedish Government, in return for services rendered to England, was allowed to send a certain number also. Frenchmen and Flemings fished extensively there, and the important pilchard fishery, which Mr. Walsh had not touched upon, was carried on very extensively by the Dutch, and even now in certain parts of the county of Cork there were remains of what were called fish palaces, where the Dutch used to cure the fish. He did not wish to awaken old and bitter memories, but it was quite impossible, in dealing with the fishery question, to omit the fact that down to a very recent period, so far from the fisheries being encouraged by the Government, they were absolutely discouraged and depressed. It seemed to be the idea that the fisheries of Ireland were to be for the benefit of every one save and except the Irish themselves. The Cromwellian Parliament was inundated with petitions that the Irish fisheries might be suppressed in consequence of their competition with the English, and under a commonwealth ordinance there was an immense amount of suppression ; many fishermen were sent to Connaught, and others transported to Barbados and the other West Indian islands. He would not go further into these matters, but he merely stated them for the purpose of showing that there was a strong claim on Imperial assistance now, for the purpose of forwarding the long-neglected and even repressed Irish fisheries. One circumstance would prove why these fisheries ought to be helped as a matter of Imperial interest. It was an unquestionable fact that the fisheries

in the North Sea were considerably diminishing, and at this moment, or very lately, there was a Royal Commissioner nominated for the purpose of inquiring into the cause of this diminution of fish in the North Sea. Under such circumstances it was most desirable that the fishing resources of Ireland should be developed to the greatest possible extent. There were only £500,000 worth captured, and that quantity might be readily augmented tenfold. The previous speaker had alluded to the very small amount to which the west coast of Ireland was utilised for the purpose of fish capture, but there was no doubt that arose from the want of sufficient harbours. From the mouth of the Shannon to Galway Bay, about seventy miles, there was only one indifferent harbour on the coast of Clare. For thirty-five miles, from Galway to Liscanor Bay, there was no harbour which would accommodate a boat of even ten tons, and from there again to the mouth of the Shannon there was an equal absence of harbour accommodation. Fishery companies had been established for the purpose of fishing the west coast, but they had all failed, chiefly from this cause, because, owing to the tempestuous character of the sea, the crews were often obliged to remain for weeks in a state of enforced idleness, and he was sorry to say that they then often resorted to the public-house to kill time, so that when the water was suitable they were not in a fit state for resuming their labours. He was happy to say that, owing to a very important vote lately passed for granting out of their own money, the Church Fund, £250,000, the want was likely to be supplied, and he had no doubt as a consequence very important fishery enterprises would be established. It was quite out of the question for men to think of getting boats suitable for fishing in those tempest-

tuous seas, if there were not adequate harbours to seek shelter in. Another important point as mentioned by Mr. Walsh was the great inconvenience and loss which in the south of Ireland a fleet was put to by being obliged to come into harbour with each cargo of fish, and there was no doubt that an immense improvement would be made if steam power were employed. That, however, must be a matter of private enterprise. All that the Government could be expected to do was to provide the means for harbours. Then he spoke of the great want of more suitable boats and gear, but there were two sources of supply now in operation. The inspectors of fisheries had a fund of £500,000, from which fishermen could borrow at very moderate interest for the purpose of supplying boats and gear. Since that fund had been in operation, the inspectors of fisheries had lent out about £50,000 to the fishermen of Ireland, and, very much to the credit of those men, the whole of that sum had been paid back with the exception of about £1000, and even that very small sum would not now be outstanding if adequate means had been taken for its recovery. Besides that, there was a Society in Dublin which had £30,000 or £40,000 at its disposal for the same purpose. An important provision had been introduced last year, enabling the inspectors instead of lending money to advance it in the shape of boats and gear, which was a great improvement, because he was afraid some of the money was often applied to very useful purposes, such as portioning their daughters, paying rent, enclosing land, and such like. Now the borrowers were debarred from that kind of thing, and instead of getting the money obtained the same assistance in kind, which would tend very much to the advancement of the fisheries. He had a very well-grounded hope that

there was a great future for the fisheries of Ireland. It was much to be deplored that there had been a very great decrease, owing to causes which he would not stay to enumerate in detail, but subsequently to the famine the numbers of fishermen were reduced from 113,000 to 25,000, and the boats from 20,000 to 6000 or 7000; still he had strong belief that with the means now placed in the hands of inspectors of fisheries a great stimulus would be given to the enterprise, and that many other industries, such as boat-building, sail-making and net-making, would be put in motion also. It was not Ireland alone which would benefit by the promotion of this industry, but the United Kingdom also would participate by having a very largely increased quantity of the most wholesome food contributed from the Irish seas.

Mr. EARLL seconded the vote of thanks. Those who had paid attention to the questions which had come before the Conferences must be more deeply convinced than ever of the importance of the fisheries, and of the necessity of the utmost caution in all questions of fishery legislation, for fisheries, though little understood, now rank among the principal industries of the world. They had had to-day two Papers by gentlemen evidently deeply interested in the subject. Mr. Bloomfield had spoken of the possibility of increasing the supply of fish in the inland waters of Ireland, and had referred in very flattering terms to the United States Fish Commission, and to their method of stocking inland waters. It was found in a country like the United States rather difficult to get the best quality of fresh fish sent from the sea-board for 1500 miles into the interior, and Professor Baird, who was at the head of the U.S. Fish Commission, determined to see if he could introduce some fish that might answer as a good

and substantial food for the people of the interior who were deprived of the fish of the ocean. He, therefore, sent to Germany, and secured a quantity of German carp, which he thought might be adapted to the inland waters. These were imported at the Government's expense, kept in ponds, and artificially propagated until a sufficient quantity had been raised to warrant their distribution to the smaller waters of the interior. As soon as the supply was sufficiently large, the distribution began, and year after year it had increased, until, at the close of 1882, German carp had been introduced into upwards of 18,000 different localities scattered over all portions of the United States. It was at first considered doubtful whether these fish would be suited to American waters, and it was therefore decidedly desirable for the Government to undertake the experiment of their introduction, for no private individual or company would feel justified in hazarding their funds on such an uncertain venture. He was happy to say that the efforts of Professor Baird had proved successful beyond expectation. The German carp were found to increase more in size in the waters of Florida in eighteen months than they did in their native waters in four years. Thus it was found possible to introduce valuable food-fish into the inland waters of America—and under that term he included mill-ponds, and the little ponds on the lands of the farmer—for many farmers were now clearing the rubbish out of their little ponds, and were sending to the Commission to obtain a supply of carp which was given them gratuitously, and many were now raising them successfully, frequently distributing the young to their neighbours gratuitously, or selling them at a low price. He thought it would be quite possible to do the same in the inland waters of Ireland. Mr. Walsh had made many suggestions, some of which were very valu-

able, especially that relating to the introduction of steam into the herring fishery. Only last week he had visited the coast of Scotland with the express purpose of studying the herring fisheries of that region. He not only visited the fishing ports, but went out both upon a steam-trawler, and upon a herring-boat, to see the methods adopted for catching fish. At Aberdeen—the port from which he sailed—about 500 vessels started, and proceeded to sea, some 30, some 40, and some 50 miles. The fish were fairly plentiful, and a number of the boats secured good catches; but the wind died out, and their fish were as worthless to them as though they had been swimming in the sea. They were, almost without exception, unable to make the harbour. A few were provided with salt, which enabled them to preserve their herrings, and to remain out for another night's fishing; but the next morning was as calm as before; and many of them again saw their catches lying comparatively worthless in their boats: for, even if salted, the curers would pay only half as much for them as for fresh herring. Two or three steamers had recently been purchased by Aberdeen parties, and fitted out for the herring-fishery, and it was an aggravating sight to those who were depending on wind and sails, to see the steamboats going by them to harbour to market their fish. He quite admitted that steam could be used with decided advantage in the fisheries of any country where it was necessary to run to market in order to sell the fish while fresh. In America they began the capture of the Menhaden and other fish, which it was desirable to land fresh, with sailing vessels, but soon found it was difficult to get them to land in proper condition, and one after another the fishermen introduced steam, and within five years the entire fleet of sailing vessels in the Menhaden fishery was replaced by steamers.

Even in the herring fishery, although that was very limited and did not compare in any way with what he had seen in Scotland, steam had been introduced for collecting the fish, and in a few instances, for vessels employed in catching them, and the results were found very satisfactory. He believed it possible for a Government to do much to encourage the fisheries by a judicious expenditure of money for such things as could not be expected from private capital. Improvements of harbours, the erection of light-houses, fish culture on a large scale, and perhaps the introduction of improved methods of catching and curing fish, as employed in other countries, naturally belonged to the Government ; but the building of curing-stands, and the purchase of nets and boats belonged to private capital. There were undoubtedly instances where assistance to fishermen, in the form of loans with proper security, for the purpose of enabling them to obtain larger and more seaworthy boats, would prove beneficial, but, as a rule, he thought it was a decided mistake to lead fishermen to believe that they could do nothing until they were helped by Government. If leaders impressed them with the idea that they must remain idle until Government took some action, they were not only doing injustice to the fisheries, but to the fishermen themselves. He could mention a number of instances in which American fishermen, with hardly a penny in their pockets, had begun to work, and to-day were men owning a fleet of vessels. They might have laboured under more favourable conditions than those of Ireland, doubtless they did in many instances, but certainly if the Irish fishermen, or indeed those of any country, came to realise that they must depend largely on their own energy and perseverance, it would be much better both for them and for the community in which they lived.

The vote of thanks having been carried unanimously,

Mr. BLOOMFIELD, in reply, said he was much obliged for the kind way in which the proposition had been made by his friend Mr. Blake, whose extreme kindness had shown that it was not necessary for Irishmen to be of the same opinion in politics in order to be appreciated by those who, like themselves, had the Irish interests at heart. There were only two points on which to touch with reference to the discussion which had taken place. Mr. Hornsby put it forward that they were to look entirely to the English and Scotch boats if they were to fish the whole coast of Ireland. He must say he demurred to that proposition. He believed it was possible for the same men, who it was proposed should go on board those boats, to show the English and Scotch what they were to do, and where they were to find the fish, if they got the opportunity to take the boat in hand and fish on their own account. It was because they had not the opportunities which were given elsewhere that they did not do so, and he must answer Mr. Earll's remark in the same way. As Mr. Blake had so properly observed, there were no harbours of refuge along miles of coast, and if boats of English and Scotch owners could not come on that account, it was utterly impossible for the poor Irish to engage in fishing there. They had heard from Mr. Earll how the inland fisheries had been developed in America, and it was only fair to ask why the Government should not be called upon to do something in the same way for Ireland. The United States had spent a large sum of money in bringing carp from Germany for the purpose of stocking their inland waters, and already 18,000 localities had been supplied with this fish. In conclusion, he begged to move a vote of thanks to Lord Milltown for his kindness in taking the chair.

Mr. WALSH seconded the vote of thanks. He said Mr. Blake, who had given himself great trouble in connection with the fisheries of Ireland, had slightly misunderstood some remarks which he made in connection with the Irish fisheries. He did not say that they required State aid for the introduction of steam carriers ; but he pointed out that these would be very useful. The State aid he asked for Ireland was in connection with what Mr. Blake now said was given, viz., the grant of £50,000 for the promotion of fishermen ownerships. That was a very small amount of money for such a purpose, and last year only £900 was given to the county of Cork, from which county over a quarter of a million pounds' worth of fish was shipped to England, for food, in 14 weeks. In that respect they required larger aid from Government, but the aid he spoke of, as being particularly necessary, was in the matter of technical education with regard to net-making, boat-building, curing-houses, &c., and he was glad to find that his ideas with regard to this matter, and also the transmission of fish, were approved. He hoped these Papers and the discussions on them would do some good, and that the wants of Irish fishermen would not be altogether forgotten.

(The vote of thanks having been carried unanimously),

The CHAIRMAN said it had been a sincere pleasure to him to attend and to listen to the extremely interesting discussion. If he might be permitted to add anything personal, he might say that it was always a matter of sincere pleasure to contribute, in however small a way, to anything which would favour the cause of his dear native country. Mr. Bloomfield had made out a very strong case indeed, and had proved to demonstration the absolute ignorance which existed on the subject of Irish fisheries, and had also proved how little had been done by the Imperial

Government towards their development. Mr. Blake had referred very slightly to the incredible injustice of past days, and it was impossible for any man, whether an Irishman or Englishman, to read of the record of that cruelty which destroyed the wholesale manufactures of Ireland, without feeling his blood boil with honest indignation at such atrocities being committed. It could not be denied that the Government of to-day, which, though not exactly the same Government as of those days, was its successor and owed a reparation to those industries which it was easy to destroy, but often extremely difficult to rehabilitate. Mr. Bloomfield had given a case in point. He had alluded to the little port of Baltimore, which, owing to the generosity of Lady Burdett Coutts, had developed in an incredibly short time to a most important fishing-port. If so much could be done by private enterprise and benevolence, surely it became the Government of the richest Empire in the world to rescue people from that slough of despair into which a great portion of Ireland had been plunged for so many generations, and to raise them again into a position which they should occupy, and which, he was firmly convinced they would occupy, without the necessity of foreign migration, or without further or more dangerous experiments in agricultural legislation. The Paper read by Mr. Walsh was one of extreme interest; he had given a succinct history of the fisheries of that part of Ireland with which he was specially connected, and brought forward very strong reasons indeed for Government assistance, and with regard to technical education and other points. He had also informed them of the enormous freightage charge from Milford and Holyhead for the transport of fish, and suggested that, as whisky and other goods were carried at a much lower rate, the railway companies should be com-

pelled, as he understood him, to carry articles of food at a less rate than was now charged. But he really did not see how the Government could carry out that suggestion, or how they could be expected to compel the two railway companies to carry these goods at a less rate than they chose to impose. The principles of political economy, although banished, as far as Ireland was concerned, to Saturn and Mars, in England held their full sway, and under these circumstances he could not help thinking that any attempt on the part of the Government to compel railway companies to carry these articles of food at less rates than those they considered proper, would hardly meet with the sanction of the Imperial Parliament. With regard to the interesting statement that Mr. Earll had made with regard to the inland fisheries of the United States, he thought there would be little difficulty in carrying out something of a similar nature in Ireland, where the lakes and rivers were, as far as affording food to the population, entirely unproductive.

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